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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,891	08/10/2001	Jim Feeley	59184/P002US/10026564	4788

29053 7590 11/17/2005

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EXAMINER

ENSEY, BRIAN

ART UNIT PAPER NUMBER

2646

DATE MAILED: 11/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/927,891	Applicant(s) FEELEY ET AL.	
	Examiner Brian Ensey	Art Unit 2646	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21, 30-40, 45-52 and 54-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21, 30-40, 45-52 and 54-60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 1-19, 21, 30-39, 45-47, 49, 51, 52, 54-57 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shennib et al. U.S. Patent No. 5,701,348 in view of Toht U.S. Patent No. 2,930,856.

Regarding claim 1, Shennib discloses an earpiece auditory device comprising: an in-the-ear (ITE) component (12), the ITE component being shaped to fit in an ear of a user, wherein said ITE component comprises a module including processing circuitry (17); a completely-in-canal (CIC) component (40), the CIC component being shaped to fit into the ear canal of the user in such a manner as to touch the bony portion of the ear canal of the user; and a connector (50) physically coupling said ITE component to said CIC component, said connector having at least one end detachably physically coupled to said ITE component or said CIC component, wherein said connector is designed to include a portion of said connector within the ear canal of the user (See Shennib Figs. 3 and 29, col. 6, line 64 to col. 7, line 30 and col. 12, lines 22-30). Shennib does not expressly disclose a behind-the-ear (BTE) component (1), the BTE component being shaped to fit behind an ear of a user, wherein said BTE component comprises a module including processing circuitry. However, the use of BTE components detachably coupled to receivers within the ear is well known in the art and Toht teaches a BTE component being shaped to fit behind an ear of a user, wherein said BTE component comprises a module including processing

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circuitry and a detachable connector coupled to a receiver within the ear cavity (See Figs. 1 and 2 and col. 1, line 38 to col. 2, line 28). It would have been obvious to one of ordinary skill in the art at the time of the invention replace the ITE component of Shennib with the BTE component of Toht for an extremely small and lightweight unit that may be worn without discomfort behind a person's ear and also practically concealed by the ear (See Toht col. 1, lines 46-48).

Regarding claim 2, the combination of Shennib in view of Toht further discloses said completely-in-canal component further comprises a speaker (41) (See Shennib Fig. 3 and col. 7, lines 6-12).

Regarding claim 3, the combination of Shennib in view of Toht further discloses said physically coupling includes communicatively coupling said behind-the-ear component to said completely-in-canal component, and wherein at least one of the at least one detachable physical coupling includes a detachable communicative coupling (See Shennib Figs. 3 and col. 7, lines 13-20).

Regarding claim 4, the combination of Shennib in view of Toht further discloses wherein at least one of the at least one detachable physical coupling is to said behind-the-ear component (See Toht Figs. 1 and col. 1, lines 50-64).

Regarding claim 5, the combination of Shennib in view of Toht further discloses at least one of the at least one detachable physical coupling is to said completely-in-canal component (See Shennib Figs. 29 and col. 12, lines 22-30).

Regarding claim 6, the combination of Shennib in view of Toht further discloses said connector comprises: at least one wire cable (50); and at least one fastener (152) physically, as well as communicatively, coupled to said behind-the-ear component or said completely-in-canal

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component; wherein at least one of said at least one fastener provides at least one of the at least one detachable physical coupling (See Shennib Figs. 29 and col. 12, lines 22-30).

Regarding claim 7, the combination of Shennib in view of Toht further discloses at least one of said at least one fastener is operable to prohibit an undesirable external element from interfering with a detachable communicative coupling between said connector and said behind-the-ear component (See Shennib Figs. 29 and col. 12, lines 22-30 and Toht Figs. 1 and col. 1, lines 50-64).

Regarding claim 8, the combination of Shennib in view of Toht further discloses at least one of said at least one fastener is operable to prohibit an undesirable external element from interfering with a detachable communicative coupling between said connector and said completely-in-canal component (See Shennib Figs. 29 and col. 12, lines 22-30 and Toht Figs. 1 and col. 1, lines 50-64).

Regarding claim 9, the combination of Shennib in view of Toht further discloses a hole and prong arrangement for quick and easy assembly and disassembly (See Toht col. 1, lines 62-64).

Regarding claim 10, the combination of Shennib in view of Toht further discloses a speaker module is detachably physically coupled to said ear mold (See Shennib Fig. 3 and col. 7, lines 5-30).

Regarding claim 11, the combination of Shennib in view of Toht further discloses said completely-in-canal component further includes a speaker receiving member, and wherein said connector includes a speaker fastener detachably physically coupled to said speaker receiving member (See Shennib Fig. 3 and col. 7, lines 5-30).

Regarding claim 12, the combination of Shennib in view of Toht further discloses said speaker is detachably physically coupled to said speaker fastener (See Shennib Fig. 3 and col. 7, lines 5-30).

Regarding claim 13, the combination of Shennib in view of Toht further discloses the detachable physical coupling between said speaker and speaker fastener includes a detachable communicative coupling (See Shennib Fig. 3 and col. 7, lines 5-30).

Regarding claim 14, the combination of Shennib in view of Toht further discloses said at least one fastener includes a fastener detachably physically coupled to said module of said behind-the-ear component (See Toht col. 1, lines 50-64).

Regarding claim 15, the combination of Shennib in view of Toht further discloses the detachable physical coupling between said fastener and said module includes a detachable communicative coupling (See Toht col. 1, lines 50-64).

Regarding claim 16, the combination of Shennib in view of Toht further discloses the ear mold is a universal fit ear mold (See Shennib col. 11, lines 65-67 and col. 9, lines 24-60).

Regarding claim 17, the combination of Shennib in view of Toht does not expressly disclose said completely-in-canal component is an open mold configuration. However, Toht teaches a receiver mounted in the end of the hearing device connected to an ear mold (See Toht col. 1, lines 49-64). Toht does not limit the configuration of the ear mold and Shennib teaches an ear mold portion for deep insertion into the ear canal with a detachable connector (See Shennib Fig. 4 and col. 4, lines 45-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize an open mold configuration for enclosing the receiver in the ear mold unit for a compact comfortable fit.

Regarding claims 18 and 19, the combination of Shennib in view of Toht further discloses processing circuitry includes sound processing circuitry wherein said sound processing circuitry includes sound amplification circuitry (See Toht col. 1, lines 38-49).

Regarding claim 21, the combination of Shennib in view of Toht further discloses said behind-the-ear component further includes a microphone (See Toht col. 1, lines 38-49).

Regarding claim 30, the combination of Shennib in view of Toht further discloses at least one of the at least one detachable physical coupling includes at least one projection of said connector engaging at least one groove of said behind-the-ear component or said completely-in-canal component (See Shennib Fig. 12).

Regarding claim 31, Shennib discloses an earpiece auditory device comprising: an in-the-ear (ITE) component (12), the ITE component being shaped to fit in an ear of a user, wherein said ITE component comprises a module including processing circuitry (17); a completely-in-canal (CIC) component (40), the CIC component being shaped to fit into the ear canal of the user in such a manner as to touch the bony portion of the ear canal of the user; means for physically coupling said CIC component to said ITE component, wherein said means for physically coupling includes means for detachably physically coupling said CIC component to said ITE component, and wherein said means for physically coupling is shaped to place a portion of said means for physically coupling within the ear canal of the user (See Shennib Figs. 3 and 29, col. 6, line 64 to col. 7, line 30 and col. 12, lines 22-30). Shennib does not expressly disclose a behind-the-ear (BTE) component (1), the BTE component being shaped to fit behind an ear of a user, wherein said BTE component comprises a module including processing circuitry and said CIC component comprises an ear mold. However, the use of BTE components detachably

coupled to receivers within the ear is well known in the art and Toht teaches a BTE component being shaped to fit behind an ear of a user, wherein said BTE component comprises a module including processing circuitry and a detachable connector coupled to a receiver within the ear cavity and said CIC component comprises an ear mold (See Figs. 1 and 2 and col. 1, line 38 to col. 2, line 28). It would have been obvious to one of ordinary skill in the art at the time of the invention replace the ITE component of Shennib with the BTE component of Toht for an extremely small and lightweight unit that may be worn without discomfort behind a person's ear and also practically concealed by the ear (See Toht col. 1, lines 46-48).

Regarding claim 32, the combination of Shennib in view of Toht further discloses said completely-in-canal component further comprises a speaker (41) (See Shennib Fig. 3 and col. 7, lines 6-12).

Regarding claim 33, the combination of Shennib in view of Toht further discloses said means for physically coupling includes means for communicatively coupling said behind-the-ear component to said completely-in-canal component, and wherein said means for detachably physically coupling includes means for detachably communicatively coupling said completely-in-canal component to said behind-the-ear component (See Shennib Figs. 3 and col. 7, lines 13-20 and Toht Fig. 1 and col. 1, lines 50-63).

Regarding claim 34, the combination of Shennib in view of Toht further discloses said means for detachably physically coupling includes means for detachably physically coupling at said behind-the-ear component (See Toht Figs. 1 and 2 and col. 1, line 38 to col. 2, line 28).

Regarding claim 35, the combination of Shennib in view of Toht further discloses said means for detachably physically coupling also includes means for detachably physically



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coupling at said completely-in-canal component (See Shennib Figs. 3 and 29 and col. 7, lines 6-30 and col. 12, lines 22-30).

Regarding claim 36, the combination of Shennib in view of Toht discloses a speaker receiving member and wherein said means for physically coupling includes a speaker fastening means (See Shennib Figs. 3 and 29 and col. 7, lines 6-30 and col. 12, lines 22-30).

Regarding claim 37, the combination of Shennib in view of Toht discloses e said means for detachably physically coupling includes means for detachably physically coupling said speaker to said speaker fastening means (See Shennib Figs. 3 and 29 and col. 7, lines 6-30 and col. 12, lines 22-30).

Regarding claim 38, the combination of Shennib in view of Toht discloses e said means for detachably physically coupling includes means for detachably physically coupling said speaker fastening means to said speaker receiving member (See Shennib Figs. 3 and 29 and col. 7, lines 6-30 and col. 12, lines 22-30).

Regarding claim 39, the combination of Shennib in view of Toht further discloses processing circuitry includes sound processing circuitry (See Toht col. 1, lines 38-49).

Regarding claim 45, Shennib discloses a method for providing a plurality of earpiece auditory device components, a portion of which may be assembled to form an earpiece auditory device tailored to a user, said method comprising: providing a plurality of in-the-ear (ITE) components from which an ITE component operable to facilitate the user's intended use for the earpiece auditory device may be selected, wherein each of said ITE components comprises a module including processing circuitry; and providing a plurality of connectors of sufficient length to physically couple a selected ITE component when said selected ITE is placed in the ear

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of the user to a completely-in-canal (CIC) component when said CIC component is placed inside the ear canal of the user so deep as to touch the bony portion of the ear canal of the user, wherein said connector of sufficient length is shaped to place a portion of said connector within the ear canal of the user when said CIC component is placed in the ear canal of the user, and wherein said connector of sufficient length includes at least one end operable to detachably physically couple to said selected ITE component or said CIC component, and wherein said CIC component comprises a speaker (See Shennib Figs. 3 and 29, col. 6, line 64 to col. 7, line 30 and col. 12, lines 22-30). Shennib does not expressly disclose a behind-the-ear (BTE) component (1), the BTE component being shaped to fit behind an ear of a user, wherein said BTE component comprises a module including processing circuitry and said CIC comprises an ear mold. However, the use of BTE components detachably coupled to receivers within the ear is well known in the art and Toht teaches a BTE component being shaped to fit behind an ear of a user, wherein said BTE component comprises a module including processing circuitry and a detachable connector coupled to a receiver comprising an earmold within the ear cavity (See Toht Figs. 1 and 2 and col. 1, line 38 to col. 2, line 28). It would have been obvious to one of ordinary skill in the art at the time of the invention replace the ITE component of Shennib with the BTE component of Toht for an extremely small and lightweight unit that may be worn without discomfort behind a person's ear and also practically concealed by the ear (See Toht col. 1, lines 46-48).

Regarding claim 46, the combination of Shennib in view of Toht further discloses a connector of sufficient length is operable to communicatively couple said selected behind-the-ear component to said completely-in-canal component, and wherein at least one of the at least one

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Regarding claims 55-57, the combination of Shennib in view of Toht further discloses a plurality of at least one element to be included in said completely-in-canal component, from which at least one of the elements to be included in said completely-in-canal component may be selected, said plurality of at least one element includes at least two ear molds of differing dimensions at least one of which fits the user's ear structure and said plurality of at least one element includes at least one universal fit ear mold (See Shennib Figs. 10-18 and col. 9, lines 24-65 and col. 11, lines 65-67).

Regarding claim 60, the combination of Shennib in view of Toht further discloses said connector of sufficient length includes at least one wire cable and at least one fastener operable to facilitate a detachable physical coupling (See Toht Fig. 1 and col. 1, line 38 to col. 2, line 28).

2. Claims 20, 40 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toht in view of Shennib as applied to claims 1, 31 and 45 above, and further in view of Taenzer et al. U.S Patent No. 6,445,799.

Regarding claims 20, 40 and 50, the combination of Shennib in view of Toht discloses a hearing device as claimed with signal processing circuitry. The combination of Shennib in view of Toht does not expressly disclose sound processing circuitry includes sound reduction circuitry. However, the use of sound reduction circuitry is well known in the hearing aid field and Taenzer teaches sound reduction circuitry (See Figs. 1 and 2 and col. 4, lines 19-48). It would have been obvious to one of ordinary skill in the art at the time of the invention to use sound reduction circuitry for improved quality signals for the user.

3. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shennib in view of Toht as applied to claim 45 above, and further in view of Rapps U.S Patent No. 6,101,259.

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end of said connector of sufficient length operable to detachably physically couple to said selected behind-the-ear component or said completely-in-canal component is also operable to detachably communicatively couple to said selected behind-the-ear component or said completely-in-canal component (See Toht Figs. 1 and col. 1, lines 49-63).

Regarding claim 47, the combination of Shennib in view of Toht further discloses said plurality of said behind-the-ear components includes a behind-the-ear component fitting behind the ear of the particular user in such a manner as to be made invisible by the user's ear (See Toht col. 2, lines 3-12).

Regarding claim 49, the combination of Shennib in view of Toht further discloses said plurality of said BTE components includes at least one BTE component having sound processing circuitry (See Toht Fig. 1 and col. 1, lines 38-49).

Regarding claim 51, the combination of Shennib in view of Toht further discloses at least one BTE component having sound processing circuitry includes at least two BTE components having different sound processing circuitry. Toht teaches both transistors and an amplifier (See Toht Fig. 1 and col. 1, lines 38-49).

Regarding claim 52, the combination of Shennib in view of Toht further discloses said behind-the-ear components further includes at least one BTE component having a microphone (See Toht Fig. 1 and col. 1, lines 38-49).

Regarding claim 54, the combination of Shennib in view of Toht further discloses providing a plurality of CIC components from which said CIC component may be selected. However, Shennib teaches providing a plurality of CIC components from which said CIC component may be selected (See Shennib Figs. 10-18 and col. 9, lines 24-65).

Regarding claim 48, the combination of Shennib in view of Toht does not expressly disclose said plurality of said BTE components includes at least two behind-the-ear components of different dimensions. However, the combination of Shennib in view of Toht does not limit the BTE construction and multi-dimensional BTE housings are well known in the art and Rapps teaches a BTE component of various dimensions (See Fig. 2 and col. 1, lines 45-67). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a BTE devices with different dimensions to select the device which most comfortably fit a wide variety of users (See abstract).

4. Claims 58 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shennib in view of Toht as applied to claim 45 above, and further in view of Kang et al. U.S Patent No. 5,757,935

Regarding claims 58 and 59, the combination of Shennib in view of Toht does not expressly disclose said plurality of at least one element includes a plurality of speakers wherein said plurality of speakers includes at least two speakers having different performance characteristics. However, Kang teaches a hearing device for the hearing impaired comprising two speaker with different performance characteristics (See Fig. 2 and abstract, air conduction and bone conduction speakers each inherently having its own performance characteristic). It would have been obvious to one of ordinary skill in the art at the time of the invention to use multiple speakers with different performance characteristics to provide a broad range of audio signals to the users (See col. 1, lines 48-62).

### *Response to Arguments*

Applicant's arguments with respect to claims 1-21, 30-40, 45-52 and 54-60 have been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 571-272-7496. The examiner can normally be reached on Monday - Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

**Any response to this action should be mailed to:**

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**Or faxed to:**

(571) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand-delivered responses should be brought to: Customer Service Window, Randolph Building, 401 Dulany Street, Arlington, VA 22314

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BKE  
November 14, 2005



**SINH TRAN**  
**SUPERVISORY PATENT EXAMINER**